Revue suisse Zool.	Tome 85	Fasc. 1	p. 167-176	Genève, avril 1978

The Genus Oligota in the Indian Sub-region (Coleoptera, Staphylinidae)

by

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With 17 figs.

Abstract

The *Oligota* of the Indian peninsular and Sri Lanka (Ceylon) are reviewed. Nine species are recognized. Three species are described as new — *micans*, *ceylonicus* and *kandyi*. *Oligota niobe* Fernando is transferred to the *Anotylus*. *Oligota semibrunnea* Kraatz is given as a new synonym of *O. chrysopyga* Kraatz. A key to species is given.

INTRODUCTION

The genus *Oligota* Mannerheim, 1831 is a small distinctive group within the extensive subfamily Aleocharinae. Upwards of 180 species have been described, and the final figure could well approach 300. It is present in all faunal regions except the Antarctic, and is best represented in the Hawaiian Islands, where no fewer than 29 species are known. *Oligota* are small insects seldom exceeding 1.5 mm and averaging only 1 mm. They are readily distinguished from other Aleocharinae by their 10 segmented antennae and 4 segmented tarsi. They are most often found in decaying vegetable refuse, but a few species are associated with certain fungi and foodstuffs. The species in the subgenus *Holobus* are predacious on *Tetranychus* mites on certain fruit trees and vegetables and are beneficial to man.

Kraatz (1859) described three species of *Oligota* from Sri Lanka *testacea*, *chrysopyga* and *semibrunnea*. Since then *testacea* has not been re-taken and our knowledge of it is based solely on the Kraatz specimens. *O. chrysopyga* has since been recorded from many countries (listed in the text under the species) including Europe where it is imported in stored food. The third Kraatz species—*semibrunnea* is here treated as a synonym of *chrysopyga*. Nothing further was added to the literature until 1939 when Cameron published his section of The Fauna of British India dealing with the Staphylinidae (part 1). Cameron gave details of the three Kraatz species and adds three from India: *O. monticola* and *gardneri* as new species and *pusillima* (Gravenhorst) an insect

first described from Europe. Later in 1945 Cameron described a fourth species, *kashmirica* from Kashmir. One other *Oligota* has been described from the sub-region: *O. niobe* Fernando (1959) but this is completely misplaced and clearly belongs in the genus *Anotylus*.

The present work was prompted by material collected by C. Besuchet and I. Löbl (Museum d'Histoire naturelle, Geneva) during a visit to Sri Lanka organised by R. Mussard. Although the material consisted of only five specimens it represented three undescribed species. No recent material is available from the Indian peninsular which is most dissapointing as many more species must be present, awaiting discovery. It is possible that the total number of *Oligota* species in the sub-region could be as high as forty particularly when the southern and central areas are worked as we have no knowledge of the taxon in this vast section of the peninsular. However we would expect *O. chrysopyga* to be present on the mainland together with certain cosmopolitan species: *parva* Kraatz and *inflata* (Mannerheim) and other *Oligota* that were either endemic or part of the Indo-Chinese/Malasian fauna.

THE SPECIES

Oligota s. str.

testacea Kraatz, 1859 Sri Lanka
chrysopyga Kraatz, 1859 Sri Lanka
= *semibrunnea* Kraatz, 1859 syn. n.
monticola Cameron, 1939 India
gardneri Cameron, 1939 India
micans sp. n. Sri Lanka
kandyi sp. n. Sri Lanka
ceylonicus sp. n. Sri Lanka
pusillima (Gravenhorst, 1806) India

Oligota s. gen. *Holobus*

kashmirica Cameron, 1945 Kashmir

note *Oligota niobe* Fernando, 1959 from Sri Lanka is here transferred to the genus *Anotylus* (Oxytelini) comb. n.

KEY TO THE SUBGENERA *OLIGOTA* S. STR. AND *HOLOBUS*

1. Body broad, abdomen strongly tapering behind, labrum deeply divided in the middle, prementum with a small entire lobe with bristles, mandibles simple . . . . . subg. *Holobus*

— Body shape variable, broad with abdomen strongly tapering behind to sub-parallel, labrum truncate or slightly concave at the front margin, prementum small and divided into two lobules, right mandible finely denticulate . . . . . subg. *Oligota* s. str.

The above key is broadly that of Coiffait & Saiz (1967) (who treat *Holobus* as a separate genus) and not that of most previous authors, including Cameron (1939) where the division is made solely on the body shape. Following the present key only *kashmirica*

is included in *Holobus*. There are three additional subgenera: *Gnatholigota*, *Deroligota* and *Nesoligota* but these do not concern the present work as they occur only in the Hawaiian Islands.

Diagnostic notes.

The body sculpture is of great importance in distinguishing the species of *Oligota*, particularly on the elytra and terga. On the pronotum it consists of minute, round, very low tubercles, varying in size and density with each species. On the elytra the sculpture is more complicated, consisting of U or V shaped tubercles that vary significantly in spacing and size with each species. On the terga the sculpture consists of small, simple, low tubercles (also called granular when larger), U or V shaped tubercles and in addition certain species have longitudinal carinae. The carinae originate near the basal margin of the tergite and extend inwards towards the hind edge (figs. 1, 8, 11 and 12). The abdomen often contracts during drying and for this reason body lengths cannot be precise, they are given here as a guide only. Body width is more reliable and is taken across the widest part of the elytra. In determining the tergite numbering, it is usually the second tergite that is visible but sometimes even this is obscured by the elytra, so it is usually best to find the seventh which is the last to have side ridges together with a narrow membrane along the hind edge, and work from this. The species discussed in the present work should be readily distinguished from each other by their external characteristics, however should problems arise the most reliable distinctions are to be found in the male genitalia and where apparent the spermatheca. I have figured the genitalia where possible but unfortunately the small amount of material available has left many species where it is unknown.

Note on *Oligota niobe* Fernando, 1959

I have not been able to examine a specimen of this insect, but Fernando does include a figure of the complete insect in his original description. From this figure it is quite clear that we are dealing with a species of *Anotylus* not *Oligota*. This is confirmed by Mr. P. M. Hammond at the British Museum (Nat. Hist.) who is currently revising the group. Fernando's drawing shows the insect to have only ten segments in the antennae and no doubt it was this character that led Fernando to believe he was dealing with an *Oligota*. However there is no doubt that *niobe* belongs in the genus *Anotylus* with the last antennal segment missing for some unknown reason.

KEY TO THE *OLIGOTA* OF THE INDIAN SUB-REGION

1. Abdomen clearly tapering behind (as fig. 1) 2
— Abdomen subparallel (as fig. 2) 5

2. Certain terga with carinae 3
— All terga without carinae 4

3. Antennae with 3 segmented club (fig. 16) . . . . . *kashmirica* Cam.
— Antennae with 5 segmented club . . . . . *micans* n. sp.

4. Antennae with 5 segmented club (fig. 17) . . . . . *gardneri* Cam.
— Antennae with 4 segmented club (not clearly defined, but that of *gardneri* is very distinctive) . . . . . *chrysopyga* Kr.

5. Certain terga with carinae 6
— All terga without carinae 7

6. Terga with weakly defined carinae (sometimes obscured by preceeding tergite); last segment of maxillary palpus equal to penultimate; antennae short non reaching to base of pronotum . . . . . *ceylonicus* n. sp.
— Terga with strongly defined carinae (fig. 12); last segment of maxillary palpus ¾ the length of penultimate; antennae longer, reaching beyond the base of pronotum . . . . . *kandyi* n. sp.

7. Body pale yellow brown; last segment of maxillary palpus equal to penultimate. (small insect 0.8 mm length) . . . . . *testacea* Kr.
— Body reddish brown, in part pitchy; last segment of maxillary palpus not equal to penultimate 8

8. Body larger 1.3 mm, broader 0.50 mm; last segment of maxillary palpus $^4/_5$ the length of penultimate . . . . . *monticola* Cam.
— Body smaller 1 mm, narrower 0.40 mm; last segment of maxillary palpus ½ the length of penultimate . . . . . *pusillima* (Grav.)

TEXT CONVENTIONS

Collections are abbreviated as follows: Muséum d'Histoire naturelle, Geneva — (MHN, Geneva); Institut für Pflanzenschutzforschung Kleinmachnow, Eberswalde — (IPK, Eberswalde); British Museum (Natural History), London — (BMNH, London).

DESCRIPTION OF SPECIES

Oligota kashmirica Cameron, 1945: 68 (Figs. 3, 7, 16)

Length 0.8 mm, width 0.40 mm. Broad with the abdomen clearly tapering behind. Body reddish brown, pubescence fairly distinctive. Antennae and legs yellow brown. Pronotum finely sculptured. Elytra with faintly delineated V shaped tubercles. Terga 3-6 with longitudinal carinae and a pattern of strongly raised granular tubercles along the hind edge, the 7th with a few small tubercles is clearly longer than the 6th. The sides of the terga with short stout setae. Antennae with an abrupt 3 segmented club. Last segment of maxillary palpus equal in length to penultimate. Aedeagus curved downwards at the apex and appears to have a toothed internal sac.

TYPE MATERIAL. KASHMIR: Lectotype here designated, Srinagar, 16.ix.1953 (Pruthi) Shalimar Farm. Paralectotype with same data as lectotype. (BMNH, London).

OTHER MATERIAL EXAMINED. ASIA, 2 ex. from the Cameron coll. simply labelled tube no5, 205E Imperial Institute Entomology. Unfortunately further details are not available, but it is more than probable that the specimens were collected in the Indian sub-region. I believe they are the same species as Cameron's and I have figured the aedeagus of one of them rather than dissect a syntype. The body colour is paler than the type but I believe this to be due to their immaturity.

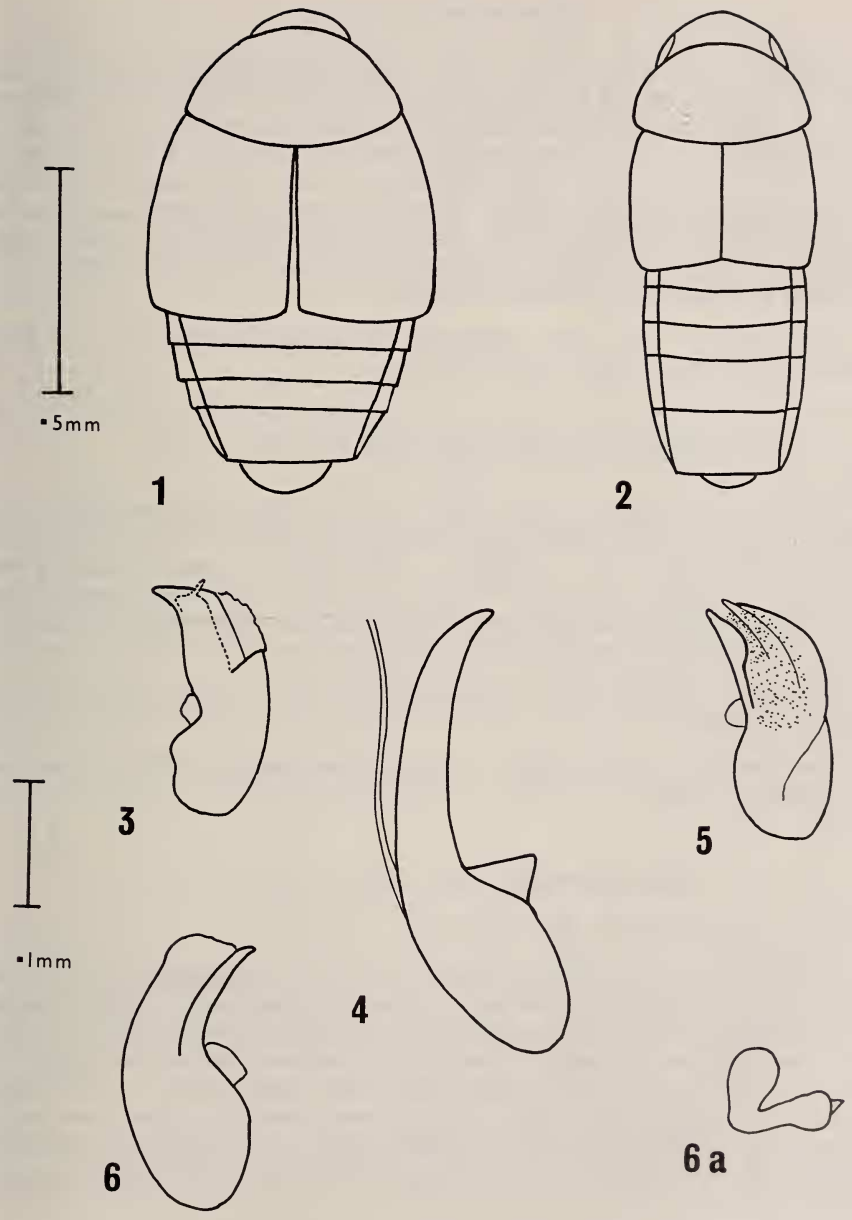

FIG. 1-6a.

Oligota sp. body outline: 1, *chrysopyga ;* 2, *pusillima.* 3-6, median lobe of aedeagus: 3, *kashmirica ;* 4, *chrysopyga ;* 5, *ceylonicus ;* 6, *pusillima ;* 6a, *pusillima* (scale lines 1-2, 0.5 mm; 3-6, 0.1 mm; 6a not to scale).

Oligota micans n. sp. (Fig. 8)

Length 0.80 mm, width 0.40 mm. Body ovate with the abdomen strongly tapering behind. Body dark reddish brown with the apex of the abdomen paler. Pubescence on pronotum and elytra sparse but distinct. Pronotum almost without sculpture. Elytra with broad but ill defined V shaped tubercles. Tergite 4 with broad V shaped tubercles, 5 with similar tubercles and longitudinal carinae, 6 also with carinae and a pattern of distinct granular tubercles of varying sizes, seven with a pattern of small tubercles. The sides of the terga with stout setae. Legs reddish yellow. Antennae reddish yellow with the last segment darker and a 5 segmented club. Last segment of maxillary palpus ½ as long as penultimate. Genitalia unknown.

Type material. Sri Lanka: Holotype, Sabaragamuwa, Ratnapura, 21.1.1970 (Mussard, Besuchet and Löbl) (MNH, Geneva).

Oligota gardneri Cameron, 1939: 39-40 (Figs. 9, 17)

Length 1.3 mm, width 0.63 mm. Broad, ovate, tapering behind. Body dark reddish brown, extreme apex of abdomen paler. Pubescence moderate. Pronotum with small, close and fairly strong V shaped tubercles. Terga without carinae but with a pattern of V shaped tubercles or tiny round very low tubercles. Legs and antennae yellow brown. Antennae with a clearly defined 5 segmented club. Last segment of maxillary palpus 1/2 the length of penultimate. Genitalia unknown.

Type Data. Holotype: India, Mussooree, 21.6.1928 (Gardner) taken in fungus (BMNH, London).

Other material examined. India, Punjab, GahamBashahr, 8000 ft. (Champion) 1 ex. (BMNH, London)

Oligota chrysopyga Kraatz, 1859: 45 (Figs. 1, 4, 10)

= *Oligota semibrunnea* Kraatz, 1859: 45, Syn. nov.

Length 1.10 mm, width 0.50 mm. Body convex with the abdomen clearly tapering behind. Head, pronotum, elytra and terga 2-6 brown or dark brown, tergite 7 yellow; some examples however entirely reddish brown and probably teneral, others are pitchy apart from the yellow 7th tergite. Pronotum with moderate sculpture and elytra with small, close V shaped tubercles. Terga without longitudinal carinae but with faintly delineated V shaped tubercles. Legs yellow brown. Antennae yellow brown with a 4 segmented club. Last segment of maxillary palpus ½ the length of penultimate. Aedeagus long and slender, curved downwards at the apex. There is no recognisable spermatheca.

Material examined. Sri Lanka. I have not examined the Kraatz type series of *chrysopyga* but I have seen this holotype of *semibrunnea* labelled 'Ceylon J, Nietner' (IP, Eberswalde). This is clearly a synonym of the species widely accepted as *chrysopyga*.

World distribution. Africa, West Indies, Samoa, Canaries, Tahiti, Philippenes and imported into Britain and France in stored food but not established.

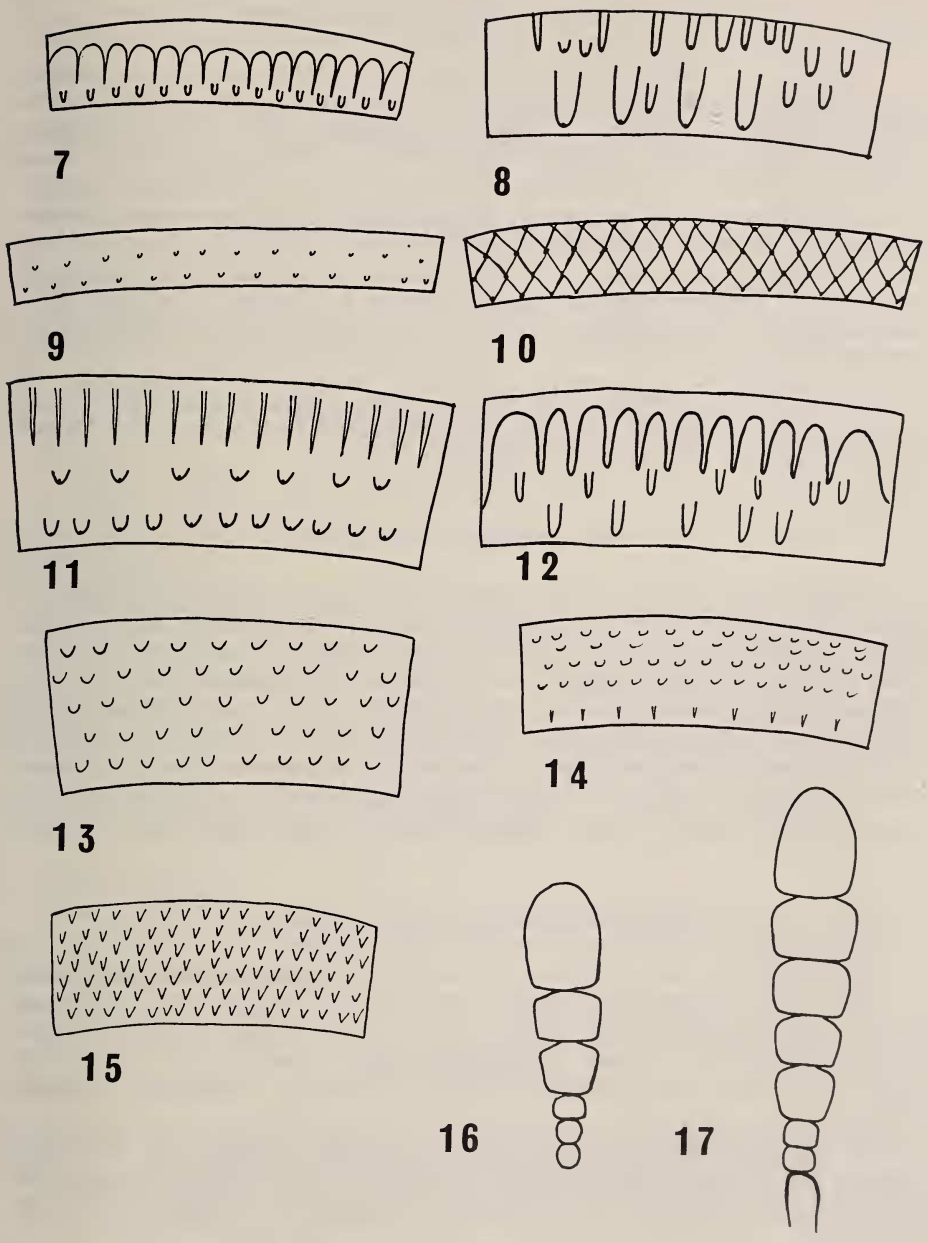

FIG. 7-17.

Oligota sp. 6th abdominal tergite: 7, *kashmirica ;* 8, *micans ;* 9, *gardneri ;* 10, *chrysopyga ;* 11, *ceylonicus ;* 12, *kandyi ;* 13, *testacea ;* 14, *monticola ;* 15, *pusillima.* 16-17, Antennae (part): 16, *kashmirica ;* 17, *gardneri.* (7-17, not to scale).

Oligota ceylonicus n. sp. (Figs. 5, 11)

Length 0.9 mm, width 0.40 mm. Subparallel (abdomen a little tapering behind). Body reddish brown. Pubescence moderate on the foreparts but long on the hind edge of the terga where on tergite 6 it is as long as the tergite. Pronotum with fine scattered sculpture. Elytra with small scattered V shaped tubercles. Terga 3 and 4 with V shaped tubercles, 5 and 6 with fine longitudinal carinae and a pattern of granular tubercles, those along the hind edge are strong and conspicuous, 7 with a pattern of small tubercles. Terga with stout setae at the sides. Legs yellow brown. Antennae yellow brown with the last 3 segments darker and a five segmented club. In this species the antennae are very short, not reaching to the hind edge of pronotum. Last segment of maxillary palpus equal in length to the penultimate. Apical ½ of aedeagus gradually thickened before tapering to the apex.

TYPE MATERIAL. Holotype ♂: SRI LANKA, Kandy, 600 m 15.1.1970, sifting in the forest near chalet guesthouse (Mussard, Besuchet and Löbl) and 2 Paratypes with same data as holotype (MNH, Geneva and BMNH, London).

Oligota kandyi n. sp. (Fig. 12)

Length 1.10 mm, width 0.43 mm. Subparallel (foreparts somewhat rounded at the sides). Body reddish brown, with distinctive golden pubescence. Pronotum almost without sculpture. Elytra with small but distinct scattered tubercles. Tergite 3 with broad V shaped tubercles, 4 with similar tubercles and longitudinal carinae, 5 and 6 with carinae and granular tubercles, 7 with scattered rather granular tubercles. Legs yellow brown. Antennae yellow brown with the last segment darker and a 5 segmented club. Last segment of maxillary palpus ¾ the length of penultimate. Genitalia unknown.

TYPE MATERIAL. Holotype: SRI LANKA, Kandy, 600 m, 22.1.1970, sifting on the forest border at Udawattekele Sanctuary (Mussard, Besuchet and Löbl) (MNH, Geneva).

Oligota testacea Kraatz, 1859: 44 (Figs. 13)

Length 0.80 mm, width 0.32 mm. Subparallel. Body and legs pale yellow brown with terga 3-6 a little darker. Pronotum with moderate sculpture. Elytra with small close V shaped tubercles. Terga without carinae but with tubercles similar to elytra. Pubescence moderate. Antennae with segments 1 and 2 clear yellow, 3-5 yellow 6-10 darker and forming a club. Maxillary palpus ½ as long as penultimate. Genitalia unknown.

TYPE MATERIAL. SRI LANKA: (Nietner) 2 ex. labelled 'Cotypes', one is in good condition but the other is without head and pronotum. The maxillary palpus on the good specimen is dissected out and mounted in Euparal on the same mount. (IPK, Eberswalde).

Oligota monticola Cameron, 1939: 35 (Fig. 14)

Length 1.3 mm, width 0.5 mm. Subparallel. Head and terga 3-6 dark brown or pitchy with tergite 7 reddish. Pronotum and elytra reddish brown. Pubescence moderate.

Antennae and legs reddish brown. Elytra with small close V shaped tubercles. Terga without longitudinal carinae but with tubercles similar to elytra. Antennae with a 5 segmented club. Last segment of maxillary palpus $^4/_5$ as long as penultimate. Genitalia unknown.

Type material. India: Lectotype here designated. Kotgarh, 7000 ft. Simla Hills, 20.9.1921 (Cameron) in fungus. Paralectotype labelled as Lectotype (BMNH, London).

Oligota pusillima (Gravenhorst) (Figs. 6, 6*a*, 15)

Aleochara pusillima Gravenhorst, 1806: 175

Length 1 mm, width 0.40 mm. Subparallel. Body reddish brown or with the head and terga pitchy. Pubescence moderate. Legs and antennae yellow brown. Pronotum with moderate sculpture. Elytra and terga without carinae but with small close V shaped tubercles. Antennae with a 4 segmented club. Maxillary palpus $^1/_2$ as long as penultimate. Aedeagus of simple shape and pointed at the apex. Spermatheca as in figure 6*a*.

Material examined. India: Kotgarh 7000 ft, Simla Hills, 19.9.1921 (Cameron) 1 ex.; Nepal, Gurjakhani 8500 ft., 3.7.1954 (Hyatt) in damp moss and liverwort on vertical rocks, 10 ex. (in poor condition); Dehra Dun, 24.3.1922 (Cameron) 1 ex. (BMNH, London).

World distribution. Europe, N. Africa, Ethiopia, Syria, Canaries, Madeira, USA.

Note *O. pusillima* is a problem insect. The type form which is found throughout Europe is a slightly smaller and darker insect with a 3 segmented club (Williams 1970) usually with short elytra and brachypterous (the Indian specimens are fully winged). So externally the Indian insects could be another species and distinct from *pusillima*. However the genitalia appear to be the same as *pusillima*. The genitalia are usually a very good guide to identification and I therefore follow Cameron and treat the insect as a form of *pusillima*, at least for the time being.

Acknowledgements

I am grateful to the following curators for the loan of material collected by themselves or in their care: C. Besuchet and I. Löbl (Geneva), P. M. Hammond (London) and Prof. Morge (Eberswalde).

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